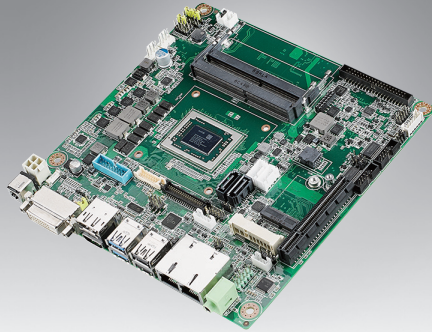


# AIMB-227

## AMD Merlin Falcon Quad Core Mini-ITX with DP/DVI-D/HDMI, 6COM, and Dual LAN

Preliminary



WISE-PaaS/RMM

### Features

- Supports AMD Merlin Falcon / Brown Falcon / Prairie Falcon processor
- Two 260-pin SO-DIMM up to 16GB DDR4 2133 SDRAM
- Supports triple display with DP/eDP/LVDS + DVI-D + HDMI
- Supports 1 PCIe x8 and 1 Mini-PCIe expansion slots
- 6 COM, 4 USB 2.0, 4 USB 3.0
- Supports WISE-PaaS/RMM and Embedded Software APIs

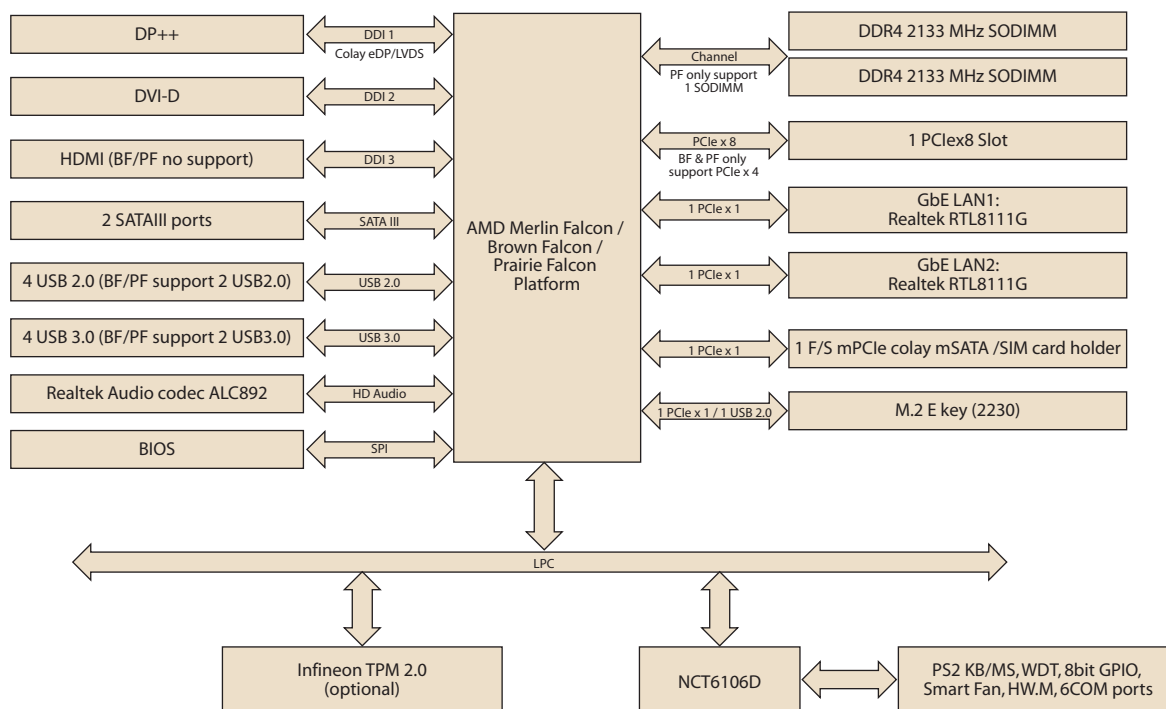
Software APIs:

Utilities:

### Specifications

Processor System	SOC (28nm)	AMD Quad RX-421BD	RX-216GD	GX-224IJ
	Max. Speed	2.1GHz (Quad Core 35W)	1.6GHz (Dual Core 15W)	2.4GHz (Dual Core 15W)
	L2 Cache	2 Mb	1 Mb	1Mb
	BIOS	AMI 16 Mbit SPI	AMI 16 Mbit SPI	AMI 16Mbit SPI
Expansion Slot	M.2	1, E key (2230)		
	Mini-PCIe	1, F/S x 1 support mSATA with SIM card holder		
	PCIe	1, PCIe x8 (BF and PF support 1 PCIe x4)		
Memory	Technology	Dual Channel DDR4 2133MHz SDRAM		
	Max. Capacity	16 GB/8 GB per SO-DIMM		
	Socket	2 x 260-pin DDR4 SO-SIMM with ECC Support (PF supports 1 DDR4 SO DIMM slot and no ECC function)		
Graphics	Controller	AMD Radeon 3rd Generation GCN (Up to 8 CUs)		
	DVI-D	1, supports up to SXGA 1920 x 1200		
	eDP Version 1.4	1, 2560 x 1600 @ 60Hz Max (Optional)		
	LVDS	1, supports dual channel 48-bit up to 1920 x colay DP 1.2 port (Optional)		
	Display Port 1.2	1, Supports DP++, resolution up to 4096 x 2160 @ 24Hz		
	HDMI V2.0	1, 4096 x 2160 @ 60Hz Max (60Hz requires re-timer)		
Multi Display	Merlin Falcon: DP/eDP/LVDS + DVI-D +HDMI			
	Brown Falcon & Prairie Falcon: DP/eDP/LVDS + DVI-D			
Ethernet	Interface	10/100/1000 Mbps		
	Controller	GbE LAN1: Realtek 8111G GbE LAN2: Realtek 8111G		
	Connector	RJ-45 x 2		
SATA	Max Data Transfer Rate	600 MB/s		
	Channel	2, SATA 2 colay mSATA (optional); SATA 1 support SATA-DOM device		
Rear I/O	DVI-D (Default)	1		
	DP1.2 (Default)	1		
	HDMI (Default)	1 (Brown Falcon / Prairie Falcon no support)		
	Ethernet	2		
	USB	2 x USB 2.0/2 x USB 3.0		
	Audio	1 (Line out)		
	DC jack	1 (2.5 mm)		
Internal Connector	LVDS & Inverter (Optional)	1/1		
	eDP (Optional)	1		
	USB	2 x USB3.0, 2 x USB2.0 (BF / PF no Support)		
	Serial	6 (5 x RS232, 1 x RS232/422/485; COM 3 support RS232/422/485 auto flow control; COM6 support 5v/12V by jumper selection; 1 COM support CCtalk ; 1 COM support TTL)		
	SATA	2		
	SATA PWR Connector	2		
	PS/2 KB & MS	1		
	Intrusion Protection	1		
Watchdog Timer	GPIO	8-bit		
	Output	System reset		
Power	Interval	Programmable 1 ~ 255 sec/min		
	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode		
Environment	Typical Power Consumption	TBD		
	Operating	Operating		Non-Operating
Physical Characteristics	Temperature	0 ~ 60° C (32 ~ 140° F)		-40 ~ 85° C (-40 ~ 185° F)
	Dimensions	170 mm x 170 mm (6.69" x 6.69")		

## Block Diagram



## Ordering Information

Part Number	CPU	Display	TPM	eDP/LVDS	PCIe Slot	USB 3.0/2.0	GbE	SATA	COM	Thermal Solution
AIMB-227MG2-00A1E	RX-421BD	DP/eDP/LVDS, DVI-D, HDMI	(1)	(1)	x8	4/4	2	2	6	Active
AIMB-227MG2-01A1E	RX-216GD	DP/eDP/LVDS, DVI-D, HDMI	(1)	(1)	x8	4/4	2	2	6	Passive
AIMB-227PG2-02A1E	GX-224IJ	DP/eDP/LVDS, DVI-D	(1)	(1)	x4	2/2	2	2	6	Passive

Note: Passive = fanless; Active = with fan

\*) BOM options available on MP version.

## Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable	1
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1700100250	1-to-1 serial ports cable kit, 25 cm	2
1960078398T000	I/O port bracket	1
1960054541N031	CPU Cooler (CPU TDP ≥ 35W)	1
2006022710	Startup manual	1

## Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1703060191	A Cable 1*6P-2.0/M-DIN 6P(F)*2 19cm
96PSA-A84W12V1	ADAPTER AC100~240V 84W +12V/7A (FSP)
96PSA-A60W12V1-1	ADAPTER AC100~240V 60W +12V/5A (FSP)
1700001524	Power cable 3-pin 180 cm, USA type
170203183C	Power cable 3-pin 180 cm, Europe type
170203180A	Power cable 3-pin 180 cm, UK type
1700008921	Power cable 3-pin PSE Mark 183 cm

## I/O View



## Optional Chassis

Part Number	Description
AIMB-B22270G-00YE	EPC-B2227 W/ RX-421BD Barebone system
AIMB-T1227A-00YE	EPC-T1227 W/ RX-421BD Barebone system